

Claim Amendments

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

Claim 1. (Previously Presented) A process for preparing at least one partial oxidation and/or ammoxidation product of hydrocarbon by subjecting at least one saturated hydrocarbon H to heterogeneously catalyzed dehydrogenation in the gas phase to form a product gas mixture A which comprises at least one partially dehydrogenated hydrocarbon H, leaving constituents present in the product gas mixture A, other than the saturated hydrocarbon H and other than the partially dehydrogenated hydrocarbon H therein, or partly or fully removing them to obtain a product gas mixture A', and subjecting product gas mixture A and/or product gas mixture A', as a constituent of a gas mixture B, to at least one heterogeneously catalyzed partial oxidation and/or ammoxidation of the at least one partially dehydrogenated hydrocarbon H present in the product gas mixture A and/or product gas mixture A', which comprises subjecting the product gas mixture A, the product gas mixture A' and/or the gas mixture B, before the at least one heterogeneously catalyzed partial oxidation and/or ammoxidation, to at least one mechanical separating operation by which solid particles present in these gas mixtures ~~can be~~ are removed.

Claim 2. (Original) A process as claimed in claim 1, wherein the saturated hydrocarbon H is propane, and the heterogeneously catalyzed partial oxidation of the partially dehydrogenated hydrocarbon H is the partial oxidation of propene to acrolein and/or acrylic acid.

Claim 3. (Original) A process as claimed in claim 1, wherein the saturated hydrocarbon H is isobutane, and the heterogeneously catalyzed partial oxidation of the partially dehydrogenated hydrocarbon H is the partial oxidation of isobutene to methacrolein and/or methacrylic acid.

Claim 4. (Original) A process as claimed in claim 1, wherein the saturated hydrocarbon H is propane, and the heterogeneously catalyzed partial ammoxidation of the partially dehydrogenated hydrocarbon H is the partial ammoxidation of propene to acrylonitrile.

Claim 5. (Original) A process as claimed in claim 1, wherein the saturated hydrocarbon H is isobutane, and the heterogeneously catalyzed partial ammoxidation of the partially dehydrogenated hydrocarbon H is the partial ammoxidation of isobutene to methacrylonitrile.

Claim 6. (Previously Presented) A process as claimed in claim 1, wherein constituents present in the product gas mixture A, other than the saturated hydrocarbon H and other than the partially dehydrogenated hydrocarbon H therein, are partly or fully removed to obtain a product gas mixture A'.

Claim 7. (Previously Presented) A process as claimed in claim 1, comprising subjecting product gas mixture A and/or product gas mixture A', as a constituent of a gas mixture B, to at least one heterogeneously catalyzed partial oxidation of the at least one partially dehydrogenated hydrocarbon H present in the product gas mixture A and/or product gas mixture A'.

mixture B, to at least one heterogeneously catalyzed partial oxidation and ammoxidation of the at least one partially dehydrogenated hydrocarbon H present in the product gas mixture A and/or product gas mixture A'.

Claim 13. (Previously Presented) A process as claimed in claim 7, wherein the saturated hydrocarbon H is propane, and the heterogeneously catalyzed partial oxidation of the partially dehydrogenated hydrocarbon H is the partial oxidation of propene to acrolein and/or acrylic acid.

Claim 14. (Previously Presented) A process as claimed in claim 7, wherein the saturated hydrocarbon H is isobutane, and the heterogeneously catalyzed partial oxidation of the partially dehydrogenated hydrocarbon H is the partial oxidation of isobutene to methacrolein and/or methacrylic acid.

Claim 15. (Previously Presented) A process as claimed in claim 8, wherein the saturated hydrocarbon H is propane, and the heterogeneously catalyzed partial ammoxidation of the partially dehydrogenated hydrocarbon H is the partial ammoxidation of propene to acrylonitrile.

Claim 16. (Previously Presented) A process as claimed in claim 8, wherein the saturated hydrocarbon H is isobutane, and the heterogeneously catalyzed partial ammoxidation of the partially dehydrogenated hydrocarbon H is the partial ammoxidation of isobutene to methacrylonitrile.

Claim 17. (Previously Presented) A process as claimed in claim 10, wherein the saturated hydrocarbon H is propane, and the heterogeneously catalyzed partial oxidation of

the partially dehydrogenated hydrocarbon H is the partial oxidation of propene to acrolein and/or acrylic acid.

Claim 18. (Previously Presented) A process as claimed in claim 10, wherein the saturated hydrocarbon H is isobutane, and the heterogeneously catalyzed partial oxidation of the partially dehydrogenated hydrocarbon H is the partial oxidation of isobutene to methacrolein and/or methacrylic acid.

Claim 19. (Previously Presented) A process as claimed in claim 11, wherein the saturated hydrocarbon H is propane, and the heterogeneously catalyzed partial ammoxidation of the partially dehydrogenated hydrocarbon H is the partial ammoxidation of propene to acrylonitrile.

Claim 20. (Previously Presented) A process as claimed in claim 11, wherein the saturated hydrocarbon H is isobutane, and the heterogeneously catalyzed partial ammoxidation of the partially dehydrogenated hydrocarbon H is the partial ammoxidation of isobutene to methacrylonitrile.

Claim 21. (Previously Presented) A process as claimed in claim 1, wherein the dehydrogenation catalyst is at least one metal deposited on a support.

Claim 22. (Previously Presented) A process as claimed in claim 1, wherein the catalytic dehydrogenation is conducted under a working pressure ranging from 0.3 to 3 atm

Claim 23. (Previously Presented) A process as claimed in claim 22, wherein the catalytic dehydrogenation is conducted in the presence of steam.